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The genus *Canalispira Jousseaume*, 1875 in southern Africa (Mollusca: Gastropoda: Marginellidae)

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ABSTRACT

Two species of the genus *Canalispira* Jousseaume, 1875, occur in south-eastern Africa: *C. umuhlwa* sp. n. from 200–350 m off Zululand and Natal, and *C. fallax* (E. A. Smith, 1903), new combination, from the littoral of the eastern Cape to southern Natal. Lectotypes of *C. olivellaeformis* Jousseaume, 1875 (type species of the genus), *C. fallax* and *C. shacklefordi* (Preston, 1915), new combination, are designated and illustrated.

INTRODUCTION

The genus *Canalispira* was introduced by Jousseaume (1875) for a single species, *C. olivellaeformis*, which he referred to the family Marginellidae, although noting some resemblance in shell-characters to members of the olivid genus *Olivella*. Coovert (1988: 43) evidently accepts *Canalispira* to be a marginellid on anatomical grounds.

During the Natal Museum dredging programme, bottom-samples from off Zululand and Natal have yielded material of an undescribed species clearly allied to *C. olivellaeformis* in its canaliculate suture. A second member of the genus appears to be the temperate water Cape *Marginella fallax* E. A. Smith, 1903.

Although the channelled suture found in the type species has previously been cited as diagnostic of the genus *Canalispira*, its development varies interspecifically. Thus in the (presumed) Sri Lankan *C. shacklefordi* (Preston, 1915), the suture is deeply impressed, but not really canaliculate, whereas in *C. fallax* (E. A. Smith, 1903) it is normal in depth for the family, although in both species the basal callus and other characters are distinctive of the genus. Detailed study of the Indo-Pacific marginellids would probably reveal additional members of the genus *Canalispira*.

ABBREVIATIONS

b/l = ratio of breadth to total length
BM = The Natural History Museum, London
MHNP = Muséum National d'Histoire Naturelle, Paris
NM = Natal Museum
NMDP = Natal Museum Dredging Programme
s/l = ratio of spire height to total length (measured along main axis).

Canalispira Jousseaume, 1875

Canalispira Jousseaume, 1875: 168. Type species (by monotypy) *C. olivellaeformis* Jousseaume, 1875.
Notes: The habitat of the type species has yet to be established (see below).

Canalispira fallax (E. A. Smith, 1903) **comb. n.**

Figs 1, 3

Marginella fallax E. A. Smith, 1903: 365, pl. 15, fig. 20; Bartsch, 1915: 40; Turton, 1932: 42; Barnard, 1959: 9. Type locality: Port Alfred, littoral.
Marginella paxillus (*non* Reeve, 1865); Sowerby, 1892: 20 (*fide* Smith, 1903).

Diagnosis: Shell b/l 0,42–0,47, suture not channelled, aperture distinctly constricted medially, its posterior angle notched, back of outer lip flattened, base evenly rounded, columella pleats 4–5, fifth one weak to absent, pleats occupying about 0,62 or less of length of inner lip; interior of outer lip with or without weak ridges; white; length 5,7–8,6 mm.

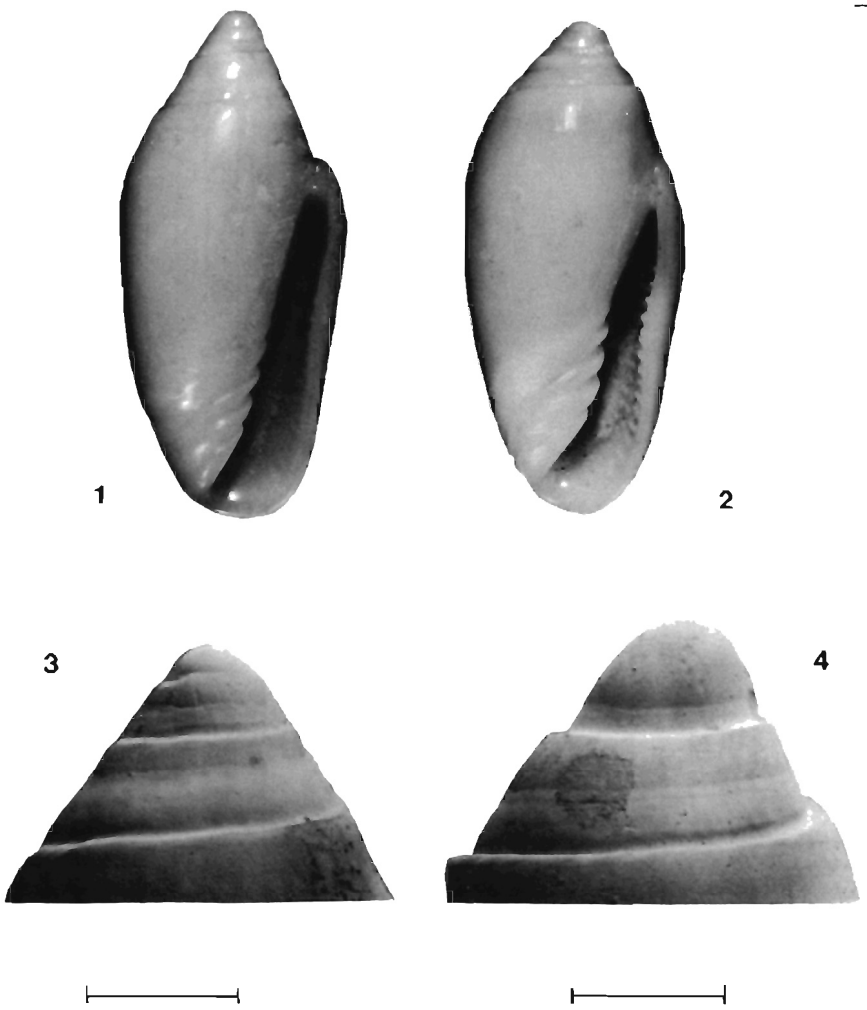
Description: Shell biconic-oblong (b/l 0,42–0,47) with low spire (s/l 0,25–0,33), maximum shell width at about 0,3 total length from posterior end, periphery of body whorl gently rounded, not shouldered, right side of body whorl (ie. back of outer lip) strongly flattened (sometimes slightly concave), base strongly and evenly rounded, not indented at siphonal canal; suture shallow, not channelled; apex slightly papilliform, so that spire is sometimes weakly coeloconoid; aperture narrow, slightly constricted medially, tapering gradually anteriorly, greatest width at anterior end; posterior angle of aperture forming a shallow notch separating outer lip from body whorl. Base of body whorl with a distinct callus deposit, whose posterior edge is more or less flush with the adjacent surface; callus usually not separated from columella by a distinct groove; columella with a second callus deposit which extends narrowly up inner lip to above suture, where it forms a well-developed suprasutural callus band, which occupies about 0,4–0,6 of each spire whorl. Columella pleats blunt, strongly oblique, generally 5, median 3 projecting slightly more than terminal ones, posteriormost pleat sometimes feeble; pleats occupying about 0,62 or less of total columella length, anterior 3–4 pleats extending around columella to midline of base; callus faintly microshagreened in vicinity of pleats; outer lip not varicoid, its interior with weak to indistinct transverse plicae. Total number of whorls slightly over 3 in number, protoconch domed-conical (Fig. 3), its limit not indicated. Uniform white.

Dimensions: 8,7 × 3,8 mm (largest), 5,7 × 2,6 mm (smallest adult).

Type material: Six syntypes BM 1903.12.19.219–24; lectotype here designated (Fig. 1), 7,9 × 3,7 mm.

Distribution: St Francis Bay to south coast of Natal, empty shells occurring from the littoral zone to about 100 m.

Locality records (all NM unless otherwise stated): EASTERN CAPE PROVINCE: Jeffreys Bay, littoral (8561: R. K.); Algoa Bay, littoral (8560: C. W. Alexander; 8559: W. Falcon; 8558: H. C. Burnup); Port Alfred, littoral (B7506: ex Albany Museum); off East London, 70 m, grey sandy mud (B8287, B8354: NMDP); do, 90 m, coarse sand, sponges (B8023: NMDP); off Nahoon, 85 m, medium sand (B8385: NMDP); off Bonza Bay, 60 m, muddy sand (B8052:



Figs 1–4. *Canalispira fallax* (E. A. Smith, 1903) and *C. umuhlwa* sp. n. 1, 3. *C. fallax*. 1 Lectotype, BM 1903.12.19.219–224, Port Alfred, 7,9 × 3,7 mm. 3. SEM of apex, NM C2413, off Mncwasa Point, 40–45 m. 2, 4. *C. umuhlwa*. 2, Holotype, NM E7345/T225, off Jesser Point, 200 m, 7,0 x 3,3 mm. 3. Paratype NM D1195/T222, off Amanzimtoti, 260–270 m, SEM of apex. Scale lines = 1 mm.

NMDP); Gonubie and Kwelera, littoral (A6439: Mrs C. Connolly). TRANSKEI: off Kei River, 55 m, coarse sand, mud (C5152: NMDP); off Sandy Point, 90 m, calcareous debris, coarse sand (C4517: NMDP); Dwesa, littoral (C6047: R. K.); off Shixini Point, 70–75 m, coarse sand, broken shell (C4414: NMDP); off Bulungula River, 60 m, fine sand and mud (C2498: NMDP); Nthlonyane, littoral (A6494: Mrs C. Connolly), off Mncwasa Point, 40–45 m, coarse sand (C2413: NMDP); Lwandile/Mdumbi, littoral (C122: R. K., R. Emanuel); off Mgazi River, 25 m, firm sand (C2562: NMDP); off Port Grosvenor, 100–115 m, sand, some mud (C1321: NMDP); Mkambati, littoral (C5717: R. K.); Mbotyi, littoral

(C8309: R. K., D. Herbert); Mzamba, littoral (B4602: R. K.). NATAL: Port Shepstone, littoral (443, 3821: H. Burnup); off Park Rynie, 50 m, coarse sand (B242: CSIR Water Research bottom sample).

Notes: Although fairly common in beach-drift in the eastern Cape and Transkei, no living specimens have yet been obtained. A shell dredged off the Qolora River in 440–446 m (NM C4045: NMDP) was presumably derived from Pleistocene deposits or else washed to that depth from shallower water. Similarly, two examples dredged off Zululand (off Matigulu Bluff in 300 m, NM E7346: NMDP) are probably Pleistocene in origin, the aperture in both containing consolidated sand grains. Natal examples are smaller and somewhat more cylindrical than those from colder water.

Marginella paxillus Reeve, 1865, under which name *fallax* was evidently first recorded from South Africa, appears to be a member of the genus *Volvarina* Hinds, 1844, and was in fact synonymised by Tomlin (1917: 288) with *V. mitrella* (Risso, 1826) of the Mediterranean, the type species of the genus.

Canalispira umuhlwa sp. n.

Figs 2, 4

?*Marginella olivellaeformis* (*non* Jousseaume, 1875); Thiele, 1925: 163 (197), pl. 22 (34), fig. 8

Diagnosis: Shell b/l 0,43–0,51, suture distinctly channelled, aperture not or only slightly constricted medially, its posterior angle deeply notched, back of outer lip moderately flattened, base slightly obliquely rounded, columella pleats 4–5, fifth one weak to absent, pleats occupying 0,63 of length of inner lip or less; interior of outer lip with weak to strong ridges in adult; white; length 6,0–9,1 mm.

Description: Shell biconic-oblong (b/l 0,43–0,51) with low spire (s/l 0,25–0,34), maximum shell width at about 0,3 of total length from posterior end, periphery of body whorl gently rounded, not shouldered, right side of body whorl (ie. back of outer lip) moderately flattened, base strongly and slightly obliquely rounded, not indented at siphonal canal; suture narrowly canaliculate, channel asymmetrically V-shaped in t/s, whorls usually slightly stepped at suture; apex blunt, slightly papilliform, spire not distinctly coeloconoid; aperture narrow, not or only very slightly constricted medially, tapering gradually anteriorly, greatest width at anterior end; posterior angle of aperture forming a deep notch separating outer lip from body whorl. Base of body whorl with a distinct callus deposit, whose posterior edge is more or less flush with the adjacent surface; callus not separated from columella by a distinct groove; columella with a second callus deposit which extends narrowly up inner lip to above suture, where it forms a well-developed, slightly convex suprasutural callus band, which occupies about 0,4–0,5 of each spire whorl. Columella pleats blunt, strongly oblique, numbering 4, with or without a weak 5th one posteriorly, median 3 projecting slightly more than terminal ones, pleats occupying about 0,63 or less of length of inner lip, anterior 2–3 pleats extending around columella to beyond midline of rostrum; callus faintly microshagreened in vicinity of pleats; outer lip not varicoid, its interior with 20–28 distinct to feeble transverse plicae, which are longest anteriorly and eva-

nesce just below posterior end of lip. Total number of whorls ca. 3,5, protoconch domed (Fig. 4), its limit not indicated. Uniform white.

Dimensions: 7,0 × 3,3 mm (holotype); 6,0 × 3,0 mm, 9,1 × 3,9 mm (smallest and largest adult paratypes respectively).

Distribution: Natal (from just south of Durban) and northern Zululand, outer continental shelf and upper slope in 200–340 m, mainly in fine to medium sand (empty shells).

Type material (all NM: NMDP, empty shells): Holotype, E7345/T225, off Jesser Point (27°33,3'S; 32°43,1'E), 200 m, fine sand. PARATYPES: ZULULAND: Paratypes 1–4, D7680/T214, off Dog Point, 250 m, medium sand; paratype 5, D7770/T215, off Dog Point, 200 m, fine sand; paratypes 6–8, D6447/T213, off Jesser Point, 200 m, fine sand; paratype 9, E4065/T216, off Liefeldt's Rocks, 160 m, broken shell; paratype 10, E4452/T217, N. E. of Leven Point, 260 m, sponges, stones; paratypes 11–15, E3766/T216, off Cape Vidal, 165 m, moderately fine sand; paratypes 16–17, E3950/T219, off Cape Vidal, 200 m, sponge-rubble; paratypes 18–19, E4025/T220, S.E. of Neill Peak (Cunge), 320–340 m, sandy mud. NATAL: paratype 20, D1107/T221, off Umlaas Canal, 250 m, coarse sand; paratypes 21–24, D1195/T222, off Amanzimtoti, 260–270 m, medium sand; paratypes 25–26, D1328/T223, off Amanzimtoti, 300–305 m, medium sand; paratype 27–28, D766/T224, off Amanzimtoti, 245–250 m, medium sand. Paratypes will be deposited in the Muséum National d'Histoire Naturelle, Paris; The Natural History Museum, London; South African Museum, Cape Town; and Dayton Museum of Natural History, Dayton, U.S.A.

Notes: This is probably the species reported by Thiele (1925) as *C. olivellaeformis*, based on material dredged by the *Valdivia* off Zanzibar and Dar es Salaam in 404 m. However, although his figure shows a species closely resembling *C. umuhlwa* (rather than *olivellaeformis*) in shape and size, the columella pleats are illustrated as if restricted to the columella margin, rather than continuing round to the middle of the rostrum as in all four species of *Canalispira* known to me.

I have examined a syntype (here designated as lectotype) of *Canalispira olivellaeformis* Jousseaume, 1875, from the MHNP collection (Fig. 5). This appears to be adult in possessing strong labral plicae and a constricted aperture, but measures only 4,2 × 2,0 mm, with a total of 2,5 whorls. From *olivellaeformis*, *C. umuhlwa* differs not only in its much larger size, but in its less cylindrical shape, the body whorl of the former species lacking the slightly conical appearance found in *umuhlwa*. Also, in *olivellaeformis* the suprasutural callus is broader (occupying nearly 0,6 of each whorl, instead of about 0,4–0,5), and the columella pleats are sharper and the posteriormost one stronger than in either *umuhlwa* or *fallax*; furthermore, in *olivellaeformis* the pleats extend further along the inner lip (occupying the anterior 0,68 of its length, instead of about 0,63 or less as in *umuhlwa* and *fallax*).

The only other comparable species appears to be *Marginella eburnea* Preston, 1906, *non* Lamarck, 1803 [= *M. shacklefordi* Preston, 1915] from '?Ceylon'. I have examined three syntypes (BM 1906.4.17.19–21), and two NM examples

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Figs 5–6. *Canalispira olivellaeformis* (Jousseaume, 1875) and *C. shacklefordi* (Preston, 1815). 5. *C. olivellaeformis*, lectotype, MHNP, 4,2 × 2,0 mm. 6. *C. shacklefordi*, lectotype, BM 1906.4.17.19–21, '?Ceylon', 4,4 × 2,2 mm.

from the Burnup collection (G6895) labelled 'Ceylon'; a lectotype (Fig. 6) measuring 4,4 × 2,2 mm, is here designated. *C. shacklefordi* is closer to *olivellaeformis* in shape, although slightly more ovate, but differs from both *olivellaeformis* and *umuhlwa* in its much narrower suture and in the suprasutural callus forming an ill-defined glaze.

All type specimens of *C. umuhlwa* are empty shells, many bored by naticids. The species appears to attain a slightly smaller size in Zululand waters (adult length 6,0–7,8 mm) than south of Durban (7,1–9,1 mm).

Etymology: *umuhlwa* = a termite or 'white ant' , Zulu.

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